

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP 2004/010362

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ H01L21/3063, H01L21/304, C25F3/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ H01L21/3063, H01L21/304, C25F3/16

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 Japanese Utility Model Gazette 1922-1996, Japanese Publication of Unexamined Utility Model Applications 1971-2004, Japanese Registered Utility Model Gazette 1994-2004, Japanese Gazette Containing the Utility Model 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

JSTPLUS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 10-58236 A (EBARA CORPORATION) 1998.03.03, whole document (Family:none)	1-11, 12-14, 1 6-17, 25-31, 3 2-34, 37-38
X	WO 2000/34995 A1 (JAPAN SCIENCE AND TECHNOLOGY CORPORATION) 2000.06.15, whole document &EP 1139400 A1 &US 6652658 B1 &JP 2000-167714 A	1-4, 6-8, 25-3 1, 32-34, 37-3 8
A	EP 1079003 A2 (EBARA CORPORATION) 2001.02.28, whole document &US 6368493 B1 &JP 2001-64799 A	1-69
A	EP 1170083 A2 (EBARA CORPORATION) 2002.01.09, whole document &US 2002/0020630 A1 &JP 2002-292523 A &CN 1380447 A	1-69



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

20.10.2004

Date of mailing of the international search report

02.11.2004

Name and mailing address of the ISA/JP

Japan Patent Office

3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan

Authorized officer

TOMOKO SUGANO

4R

9545

Telephone No. +81-3-3581-1101 Ext. 3469

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2003/029531 A2 (EBARA CORPORATION) 2003.04.10, whole document &JP 2004-2910 A	1-69
PX	JP 2004-216542 A (EBARA CORPORATION) 2004.08.05, whole document (Family:none)	23-24, 43-44
PA	WO 2003/064734 A1 (EBARA CORPORATION) 2003.08.07, whole document &JP 2004-84054 A	1-69
PA	JP 2004-209588 A (EBARA CORPORATION) 2004.07.29, whole document (Family:none)	1-69
PA	JP 2004-255479 A (EBARA CORPORATION) 2004.09.16, whole document (Family:none)	1-69

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
See extra sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐

The additional search fees were accompanied by the applicant's protest.

☐

No protest accompanied the payment of additional search fees.

The separate inventions are not so linked as to form a single general inventive concept for the following reasons:

- 1) The "special technical features" of claim 1-11, 25-34 relates to the electrolytic processing with the high-pressured liquid.
- 2) The "special technical features" of claim 12-18, 35-36, 37-38 relates to how to supply the liquid between the workpiece and at least one of the processing electrode and the feeding electrode in an electrolytic processing.
- 3) The "special technical features" of claim 19-22, 39-42 relates to the keeping time of the contact between the ion exchanger which is covering the surface of the electrode and the workpieces in an electrolytic processing.
- 4) The "special technical features" of claim 23-24, 43-44 relates to how to control the voltage in an electrolytic processing.
- 5) The "special technical features" of claim 45-69 relates to how to set the relative speed between the workpiece and the processing electrode in an electrolytic processing.

Therefore, these groups are not so linked as to form a single general inventive concept, so 5 inventions are included in this application.